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(54) **A sanitary napkin or incontinence guard.**

(57) An absorbent article, such as a sanitary napkin or an incontinence guard, comprising a liquid-impermeable surface layer (1) which is remote from the wearer when the article is worn, a liquid-permeable surface layer (2) which faces towards the wearer in use, and an absorbent pad which is contained between the two surface layers. The inventive article is characterized in that the absorbent pad (3) is arched in its transverse direction, at least at its centre part, and therewith exhibits a convex surface (5) on the side of the pad which faces towards the wearer in use. Means are provided for preventing the smallest distance between the side edges (8, 9) of the pad (3) at its arched region from exceeding a given value which is smaller than the width of the liquid-permeable outer layer (2) in a flat state.

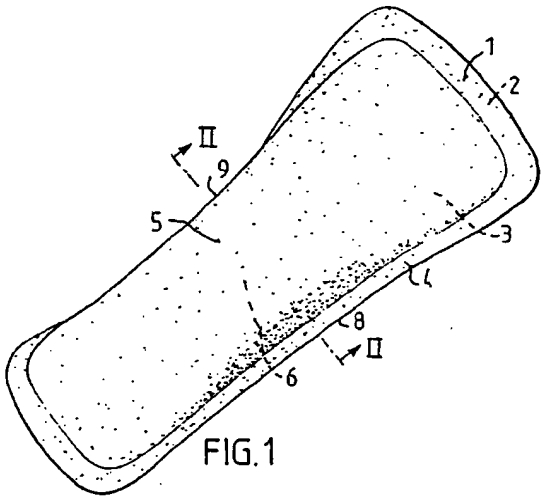

FIG.1

EP 0 419 434 A1

an inventive article means that the article will adapt more readily to the space between the thighs of the wearer. The article will therewith be soft and comfortable to the wearer and can be worn discretely.

An absorbent article having a soft arched portion and mutually locked side edges can be manufactured in a number of different ways. For instance, an arched absorbent body can be produced by building-up a commensurate configuration of absorbent material or by bending or arching a conventional, flat absorbent body. The maximum smallest distance between the opposing side edges of the absorbent pad is made permanent, either by making the liquid-impermeable layer on the rear side of the article smaller than the liquid-permeable layer on the front side of the article, or by applying separate locking tape which mutually connects the side edges of said article. This locking tape may, for instance, consist of shrink film or a plastic tape which is extended transversely over the width of the article, suitably at its centre part.

In those instances when the inventive absorbent article is produced from a flat absorbent pad which is subsequently arched, said pad may initially be straight or formed with a slightly wider centre part. In this latter case, the arched portion will contain more absorbent material. It is important, however, that the ultimate arched portion does not contain so much absorbent material as to detract from its softness and comfort in wear.

It has been found unsuitable to locate adhesive for securing the article to the wearer's underpants or panties immediately beneath the actual arched portion itself. Instead, the adhesive is preferably located along the end parts of the article, so that the article will conform to the contours of the wearer's body to the greatest possible extent.

The invention will now be described in more detail with reference to an exemplifying embodiment of an inventive absorbent article and with reference to the accompanying drawings.

Figure 1 of the drawings illustrates a first embodiment of an inventive sanitary napkin, seen from the side thereof which faces the wearer in use.

Figure 2 is a cross-sectional view of the sanitary napkin shown in Figure 1, taken on the line II-II.

Figure 3 illustrates a second embodiment of an inventive sanitary napkin, seen from the side which lies remote from the wearer in use.

Figure 4 is a sectional view of the sanitary napkin shown in Figure 3, taken on the llne IV-IV.

Figure 5 illustrates a flat absorbent pad intended for a sanitary napkin according to a third embodiment of the invention.

Figure 6 illustrates a fourth embodiment of an inventive sanitary napkin, seen from the side of the napkin remote from the wear in use.

Figure 7 is a sectional view of the sanitary napkin shown in Figure 6, taken on the line VII-VII.

The sanitary napkin illustrated in Figures 1 and 2 includes a first liquid-permeable casing layer 1 on the side of the napkin which faces the wearer in use. The napkin also includes a liquid-impermeable second casing layer 2 on the side of the napkin remote from the wearer in use, and an absorbent pad or body 3, made for instance of cellulose fluff, which is contained between the two casing layers 1 and 2. The two casing layers 1, 2 extend slightly beyond the absorbent pad and the outwardly protruding casing parts 4 are mutually joined around the full circumference of the absorbent pad 3.

Because the liquid-impermeable casing layer 2 is narrower than the liquid-permeable casing layer 1, the absorbent pad 3 is held arched and presents a convex surface 5 on that side of the pad which faces towards the liquid-permeable outer layer 1. Located between the absorbent pad 3 and the liquid-impermeable casing layer 2 is a cavity 6 which is more or less well defined. The size of the cavity 6 depends on the extent to which the absorbent pad 3 is arched and also on the choice of absorbent material. A well integrated absorbent pad will provide a more specifically defined cavity, whereas non-bound cellulose fluff, for instance, will tend to fill the cavity almost completely. This is primarily the case when the napkin is worn, since the napkin is then compressed between the thighs of the wearer. Cellulose fluff is not springy and therefore has practically no intrinsic restoring capacity. Consequently, an abosrbent pad which is made of such material is unable to return to its original shape subsequent to being deformed. When no such constant deformation is desired, the absorbent pad may, of course, include a stiffening layer or elastic restoring means, for instance in the form of a plastic foam layer. The absorbent pad may also include so-called superabsorbents, these being materials capable of absorbing body fluid in quantities corresponding to several times their own weight. Examples of such materials are polyacrylates and modified cellulose. Superabsorbents may also be placed in the napkin cavity and there function to bind body fluid at a location remote from the body of the wearer.

The sanitary napkin illustrated in Figures 3 and 4 has essentially the same contruction as the sanitary napkin illustrated in Figures 1 and 2. Consequently, similar napkin members have been identified with reference signs identical to those used in Figure 1. The casing layers 1 and 2 of this embodiment, however, have substantially the same geometric extension. In this case, the napkin is

in a shrunk or contracted state the material strip (7) is shorter than the distance between the side edges (8, 9) of the article when said article is in a flat state, whereby the article exhibits a convex surface (5) on the side of said article which faces towards the wearer in use.

6. An article according to any one of Claims 3-5, **characterized** in that the material strip (7) extends over at least 1/10 of the length of the absorbent pad, and preferably over at least 1/7 of said length.

7. An article according to Claim 1, **characterized** in that the liquid-impermeable casing layer (2) consists of shrinkable material.

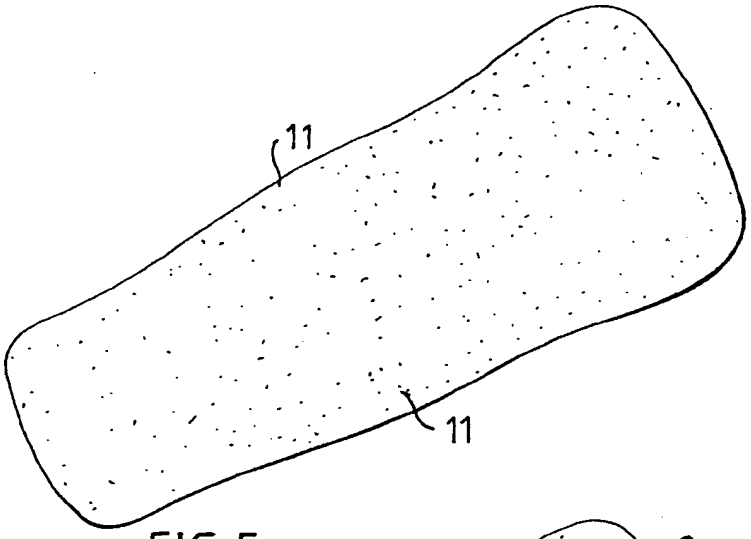

FIG. 5

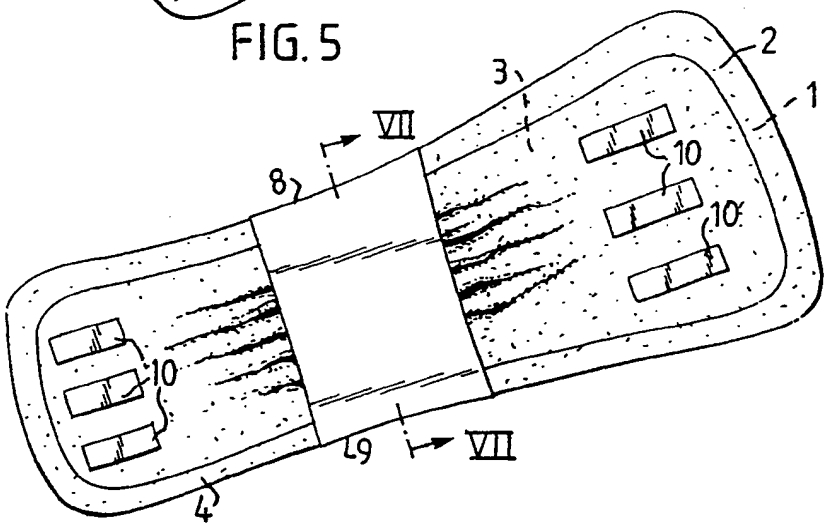

FIG. 6

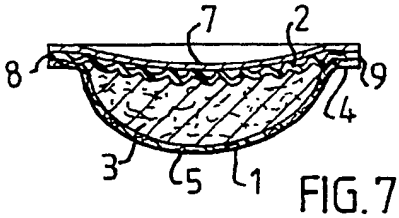

FIG. 7